

Award Information

Agency: Department of Defense
Branch: Air Force
Contract: F08635-01-C-0049
Agency Tracking Number: 011XP-0801
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Phase: Phase I
Program: SBIR
Solicitation Topic Code: N/A
Solicitation Number: N/A

Timeline

Solicitation Year: N/A
Award Year: 2001
Award Start Date (Proposal Award Date): N/A
Award End Date (Contract End Date): N/A

Small Business Information

[Zona Technology, Inc](#)

7430 E. Stetson Drive, Suite 205, Scottsdale, AZ, 85251
DUNS: 182103291
HUBZone Owned: N
Woman Owned: N
Socially and Economically Disadvantaged: N
Principal Investigator
Name: Ping Chih Chen
Title: Vice President
Phone: (480) 945-9988
Email: pc@zonatech.com

Business Contact

Name: Danny Liu
Title: President
Phone: (480) 945-9988
Email: danny@zonatech.com

Research Institution

N/A

Abstract

For aircraft /store compatibility, a comprehensive software system requested by the Air Force for rapid assessment of flutter and ejection loads (RAFEL) poses challenging requirements. With ZAERO aeroelastic software as a base, ZONA can establish a RAFEL system satisfying all AF's requirements. Specifically, ZONA will develop RAFEL in Phase I with: a) solution accuracy with flutter solution robustness via ZONA's g-method, high-fidelity ZONA aerodynamic wing-body modeling, extended flutter/unsteady aerodynamic range covering subsonic/transonic and supersonic Mach numbers; b) computation efficiency for massive store/aircraft combinations; and c) rapid selection of critical cases of flutter, ASE instability, LCO and ejection loads. RAFEL program architecture contains three subsystems: i) unified aerodynamic influence coefficients (UAIC) matrix system of ZAERO to substantially reduce repetitive computing effort; ii) massive store management (MSM) system for effective data management of UAIC assembly; iii) a data mining system for rapid screening MSM data and selection of all critical cases. Selected test cases for RAFEL validation include three distinctive F-16/store cases in transonic flight. ZONA is committed to work closely with AF in Phase II to achieve a fully integrated RAFEL system in a distributed computing environment with added capability in flutter-mode tracking, optimum store-release scheduling, minimized ejection loads and a GUI system. ZONA envisions that the fully integrated RAFEL system will be a unique product for aircraft compatibility analysis surpassing all existing engineering tools. (1) ZONA plans to package RAFEL system for commercialization with AF/CRADA. (2) ZONA will market RAFEL in parallel to ZAERO aeroelastic software system. (3) Potential customers include DoD, Aerospace/Defense industry and private sectors. (4) RAFEL can apply to military/commercial/ GA aircraft and future fighters/UCAVs

* Information listed above is at the time of submission. *

